FLEGEL ET AL. -- 09/600,714
Client/Matter: 009848-0276330

IN THE CLAIMS:

1.-3. (Cancelled)

4. (Previously Presented) An isolated nucleic acid molecule encoding a human Rhesus D antigen contributing to or indicative of the weak D phenotype, said nucleic acid molecule carrying at least one missense mutation, as compared to wild type Rhesus D antigen set forth as SEQ ID NO:41, wherein the missense mutation encodes an amino acid substitution selected from any of the following: in position 3 is from Ser to Cys, in position 10 from Arg to Gln, in position 16 from Trp to Cys, in position 114 from Arg to Trp, in position 149 from Ala to Asp, in position 182 from Ser to Thr, in position 198 from Lys to Asn, in position 201 from Thr to Arg, in position 220 from Trp to Arg, in position 223 from Phe to Val, in position 270 from Val to Gly, in position 276 from Ala to Pro, in position 277 from Gly to Glu, in position 282 from Gly to Asp, in position 294 from Ala to Pro, in position 295 from Met to Ile, in position 307 from Gly to Arg, in position 339 from Gly to Glu, in position 385 from Gly to Ala and in position 393 from Trp to Arg of the amino acid sequence encoded by SEQ ID NO:41 (Figure 2), or a combination of said substitutions.

5. (Cancelled)

6. (Previously Presented) An isolated nucleic acid molecule encoding a human Rhesus D antigen contributing to or indicative of the weak D phenotype, said nucleic acid molecule carrying at least one missense mutation, as compared to wild type Rhesus D antigen set forth as SEQ ID NO:41, wherein said missense mutation is selected from any of the following with reference to SEQ ID NO:41: in position 8 is from C to G, in position 29 from G to A, in position 48 from G to C, in position 340 from C to T, in position 446 from C to A, in position 544 from T to A, in position 594 from A to T, in position 602 from C to G, in position 658 from T to C, in position 667 from T to G, in position 809 from T to G, in position 819 from G to A, in position 826 from G to C, in position 830 from G to A, in position 845 from G to A, in position 880 from G to C, in position 885 from G to T, in position 919 from G to A, in position 1016 from G to A, in position 1154 from G to C and in position 1177 from T to C, or a combination of said missense mutations.

7. (Cancelled)

8. (Previously Presented) The nucleic acid molecule of claim 6 wherein said combination of missense mutations is selected from any of the following with reference to SEQ ID NO:41: positions 544, 594 and 602 and is T to A at position 544, A to T at position 594 and C to G at position 602 or comprises positions 602, 667 and 819 and is C to G at position 602, T to G at position 667 and G to A at position 819 or comprises positions 48, 602, 667 and 819 and is G to C at position 48, C to G at position 602, T to G at position 667 and G to A at position 819.

9. (Previously Presented) The nucleic acid molecule of any one of claims 4, 6 or 8, wherein said molecule is mRNA or genomic DNA.

10. (Previously Presented) A vector comprising the nucleic acid molecule of any one of claims 4, 6, or 8.

11. (Previously Presented) An isolated host cell transformed with the vector of claim 10, wherein the host cell is selected from a bacterial cell, yeast cell, fungal cell and insect cell.

12. (Previously Presented) A method of producing a Rhesus D antigen contributing to the weak D phenotype comprising culturing the host cell of claim 11 under suitable conditions and isolating the Rhesus D antigen produced.

13.-47. (Cancelled)

48. (Previously Presented) A kit comprising the isolated nucleic acid of any of claims 4, 6, or 8.

49. (Previously Presented) The nucleic acid molecule of claim 4, wherein said combination of substitutions is selected from one or more of the following: positions 182 is from S to T, 198 from K to N, and 201 from T to R; positions 201 is from T to R and 223 from F to V; or in positions 16 is from W to C, 201 from T to R, and 223 from F to V of the amino acid sequence encoded by SEQ ID NO:41 (Figure 2).

50.-51. (Cancelled)

52. (Previously Presented) An isolated host cell transformed with the vector of claim 10, wherein said host cell is suitable for assessment of anti-Rhesus D antibody affinity, avidity, reactivity or specificity.